DISCLAIMER: Data displayed below is for informational purposes only.
DRAFT

EXISTING DEFICIENCIES:

Water: 1998 286,000 gallon WST has developed ice periodically, blocking the water supply and damaging the interior structure of the tank. Despite an emergency repair of the roof performed for $50,000 in 2013, the tank has begun to bulge.

Sewer: None in this project.

Solid Waste: None in this project.

O & M: None in this project.

PROPOSED FACILITIES:

Water: Replace Insulated 286,000 gallon water storage tank with 50,000 gallon storage tank. Demolish the existing tank.

Sewer: None in this project.

Solid Waste: None in this project.

O & M: None in this project.

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Water storage tank, no foundation, water distribution	IHS Regular	50000	Gal.	C
WATER DISTRIBUTION - Foundation - concrete foundation	IHS Regular	2289	Sf.	C
WATER DISTRIBUTION - Water storage tank, no foundation, water distribution	IHS Regular	1	Gal.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $659,085.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Periodically run out of water.
Sewer: None
Solid Waste: None
O & M: None

PROPOSED FACILITIES:

Water: Drill new well.
Sewer: None
Solid Waste: None
O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER SOURCE - Ground water well, water source	IHS Regular	1	Ea.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $300,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None in this project.

Sewer: Portions of sewer system installed in 1940's and 1950's. Continuous infiltration exceeding 10 percent of design flow (LEVEL 3) occurs. The DIP and clay mains have settled, and cracked. The manhole penetrations are sheering off at the brick manholes. LEVEL 4 - Twice a year sewage backs up into homees because of detiorating facilities. LEVEL 3 - Infiltration exceeds design by 20 percent continuously, or ten times a year.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Install 1,050 lf of new sewer main (8"), install sewer connections, manholes in the existing alighment. Restore the road in kind. Update existing O&M manual.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	1050	Ft.	C
SEWER COLLECTION - Service lines, direct bury, sewer collection	IHS Regular	350	Ft.	C
Sewer, Other - Road, sewer other	IHS Regular	1050	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $735,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: WD systrem is 6" cast iron, DI, and PVC mains. Service Conne3ctions are galvanized and copper. Potable water stagnates at many branched dead end leg. All 18 flushing hydrants are corroded from the salt air, and over half can not function without replacement.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Upgrade water distribution system (approx 3200 LF of 8" watermain; 870 LF of 10" watermain; 22 fire hydrants; water service lines). Complete O&M manual and provide operator training.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	6100	Ft.	D
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	1850	Ft.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,186,250.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Estimate before EMT is 527,770

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Connect to exsting water main, 520 LF of 8" main, 4 8" gate valves, 5 flushing hydrants, three 2" services, 1 one-inch service, a school yard hydrant (?? probalby will not be paid by the grant).

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - General estimate, water other	IHS Regular	1	Ls.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $600,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: 50 year old pipe
Sewer: None
Solid Waste: None
O & M: None

PROPOSED FACILITIES:

Water: 1,320 LF of water main, 7 gate valves, 5 flushing hydrants, 2 one inch services
Sewer: None
Solid Waste: None
O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - General estimate, water other	IHS Regular	1	Ls.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,000,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: See Study

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: 1,1010 LF 8" water main, 1 8" gate valve, 4 flushing hydrants, 1 2" water service, 2000 cy imported backfill (spread),

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - General estimate, water other	IHS Regular	1	Ls.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $400,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Icing in tank.
Sewer: None
Solid Waste: None
O & M: None

PROPOSED FACILITIES:

Water: Insulation
Sewer: None
Solid Waste: None
O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - General estimate, water other	IHS Regular	1	Ls.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $250,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Deficiencies in report
Sewer: None
Solid Waste: None
O & M: None

PROPOSED FACILITIES:

Water:
Sewer: None
Solid Waste: None
O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - General estimate, water other	IHS Regular	1	Ls.	B

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $527,000.00

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DRAFT

EXISTING DEFICIENCIES:

Water: In the Andreafsky Townsite the PVC water mains & copper service lines have reached the end of their service life and need to be replaced. Lines break more than four times per year and leak. Old style pit orifices regularly fail due to corrosion and oxidation. Catastrophic failure of the PVC portion of the water distribution mains would cause major portions of the mains to be lost to freezing and would revert the townsite to water haul.

Sewer:

Solid Waste:

O & M:

PROPOSED FACILITIES:

Water: Replace 6,070 LF of 4" PVC water mains with modern 6" HDPE insulated arctic pipe. Replace 6 fire hydrants and 14 remaining copper water service lines along this segment of water mains.

Sewer:

Solid Waste:

O & M:

CIP Details:

Related Projects:

Ongoing Funding: Upgrades to the water treatment plant (AN-07-NG9) & replacement of the Andreafsky Lift Station (AN-08-NJ3)

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	6070	Ft.	C
Water, Other - Other water	IHS Regular	1	Ls.	C
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	14	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,526,132.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The aging utility system infrastructure is a serious impediment to successfully providing safe, sustainable water supply and sewage disposal to the community. Frequent interruptions to service have been required to complete emergency repairs of broken and leaking water mains.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Update September 2007 Utility Master Plan, with an emphasis on engineering evaluation and rehabilitation plan for aging system components.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
O & M, Other - Planning costs	IHS Regular	1		C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $65,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: With the exception of the 22 homes listed in this project Saint Mary's is fully served.

Sewer: With the exception of the 22 homes listed in this project Saint Mary's is fully served.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Extend water mains to 3 homes, connect service lines to 21 un-served homes, provide indoor plumbing to 2 homes, and connect existing service line to 1 trailer NOTE: Need to confirm 1st service to all homes and plumbing is not for HUD homes.

Sewer: Extend Sewer mains to 3 homes, connect service lines to 21 un-served homes, provide indoor plumbing to 2 homes, and connect existing service line to 1 trailer Need to confirm 1st service to all homes and plumbing is not for HUD homes.

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding: City of Saint Mary's sewer line replacement project1,200 linear feet of the sewer main and 12 service connections (constructed in 1973) have failed. Sewer has been backing up to homes, surfaced in the street, and collected in puddles in the adjacent yards. The main sewer line originally constructed with PVC pipe is well beyond its service life and frost heaves have resulted in areas with a reverse grade. The City of Saint Mary's has contracted with CE2 Engineers, Inc. to complete a preliminary engineering study and cost estimate for correcting the situation. Based on 2013 construction costs they estimated the project at $596,281.

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Force mains, direct bury, sewer collection	IHS Regular	900	Ft.	A
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	200	Ft.	A
SEWER COLLECTION - Service lines, direct bury, sewer collection	IHS Regular	1200	Ft.	A

SEWER COLLECTION - Lift station, sewer collection	IHS Regular	3	Ea.	A
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	2	Ea.	A
Sewer, Other - Professional Services (engineering)	IHS Regular	1	Ls.	A
WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	2	Ea.	A
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	600	Ft.	A
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	1200	Ft.	A
Water, Other - Professional Services (engineering)	IHS Regular	1	Ls.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,631,948.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: Existing solid waste disposal site has no fencing or means to cover solid waste, and need to be expanded to meet community needs (it is full). Landfill serves both Pitkas Point and Saint Mary's.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Expand and fence existing solid wste site. Provide equipment to operate solid waste site.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - Development, solid waste site	IHS Regular	4	Ac.	D
Solid Waste C (Development) - Equipment, solid waste	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $797,286.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: 1. The 1.2M Gallon raw WST has severe interior corrosion that is affecting its structural integrity and water tightness. See the attached condition report for a detailed condition survey. 2. The insulation on the outside of the WST is unprotected blown-urethane, and is therefore subject to water saturation and cyclic freeze and thaw damage. As a result the thermal integrety of this insulation has been comprimised.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: 1. Repair the corrosion and apply a complete spray-on CIM liner inside the WST. 2. Apply a weather-resistant aluminum-protected insulation system to the outside of the WST

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - Other water	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $900,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The St. Michael combined water/vacuum sewer utilidor system is mostly supported by Chance Anchors. However, at the road crossings, the utilidors are routed underground, placed on sleepers. St. Michael has thaw-unstable soils, and thus the utilidors have been sinking, putting severe stress on the utilidor system in these areas, creating likelihood of pipe failure and potential for water/sewer cross connection.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Support the underground utilidors at road crossings with Chance Anchors and backfill with structural local fill to prevent damage from traffic. Re-route the utilidors as necessary to minimize the length of road crossings.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Utilidors, above ground, water distribution	IHS Regular	280	Ft.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $168,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: The village of Saint Michael has never had a sanitation facilities master plan.

Sewer: The village of Saint Michael has never had a sanitation facilities master plan.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Develop a sanitation facilities master plan.

Sewer: Develop a sanitation facilities master plan.

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Sewer, Other - Planning costs	IHS Regular	1		D
Water, Other - Planning costs	IHS Regular	1		D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $150,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: The existing solid waste site is an unpermitted open dump with no fencing. There is no solid waste management plan in place.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Develop solid waste management plan. Close and Cap existing solid waste site. Select and develop new, permitted solid waste site with fencing and access road.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste A (Plan) - Management Plan, Solid Waste	IHS Regular	1	Ls.	D
Solid Waste B (Closure) - Closure, solid waste site	IHS Regular	4	Ac.	D
Solid Waste C (Development) - Development, solid waste site	IHS Regular	5	Ac.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,400,000.00

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DRAFT

EXISTING DEFICIENCIES:

Water: Insufficient well production flow for community needs, after production was dropped to prevent salt water intrusion. The existing water collection system is near full capacity and will not support expansion of the community economy. The existing distribution system to the airport provides water to fill storage cisterns at each user and fire flow from wells only. The City prepared an Aquifer Analysis in November 2003 under funding from the State of Alaska to determine the capacity of the island aquifer and wells, and an analysis of domestic water and fire flow to the airport in 2004 under funding from the National Weather Service. Existing well pumps were downsized to preclude salt water intrusion and upcoming.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Drill 2 new domestic water wells. Installation 2,400 LF new water main to tie the new wells into the existing collection and treatment system. Construct a 220,000 gallon WST to provide gravity pressure supply and fire flow to the airport and back-up water storage to the community. Fire flow capacity to be funded by others (?)

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	2400	Ft.	C
WATER DISTRIBUTION - Water storage tank, no foundation, water distribution	IHS Regular	220000	Gal.	C
WATER DISTRIBUTION - Foundation - conventional, local gravel, water distribution	IHS Regular	1000	Sf.	C
WATER SOURCE - Ground water well, water source	IHS Regular	2	Ea.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,046,854.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None
Sewer: Outfall needs to be upgraded.
Solid Waste: None
O & M: None

PROPOSED FACILITIES:

Water: None
Sewer: New outfall
Solid Waste: None
O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER TREATMENT - Ocean outfall, sewer treatment	IHS Regular	500	Ft.	C
SEWER TREATMENT - Ocean outfall, sewer treatment	VSW/EPA	1	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,600,000.00

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DRAFT

EXISTING DEFICIENCIES:

Water: 1960's water system upgraded n part by PHS in 1980's. Because loop feed connections of water mains were not completed, many under-sized lines cannot provide fire flow to the areas. Water also stagnates in mains in locations. The City's 1996 utility infrastructure assessment determined life of existing facilities and system deficiencies.

Sewer: None in this project.

Solid Waste: None in this project.

O & M: None in this project.

PROPOSED FACILITIES:

Water: Complete the loop feed and upgrade specific undersized lines not completed by PHS. Install 4,835 feet of new or replacement water mains, 28 new water services and 17 new fire hydrants.

Sewer: None in this project.

Solid Waste: None in this project.

O & M: None in this project.

CIP Details:

Related Projects: There is an active harbor project in progress which includes dredging, breakwater and docks for the small boat harbor. Approx $8.4M funded by COE/State. Project will provide domestic water to the new Corp of Engineers Small boat harbor, Community Fire Station and Crane Storage Building, new Teacher Housing and APIA Clinic Housing.

Ongoing Funding: South Old Town sewer project to replace failing clay sewer collection piping and install sewer service to an estimated 53 homes will be completed during 2007.

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	2858	Ft.	C
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	2100	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $573,550.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None
Sewer: None
Solid Waste: None
O & M: None

PROPOSED FACILITIES:

Water: None
Sewer: None
Solid Waste: None
O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER TREATMENT - Septic tank, community, sewer treatment	IHS Regular	140000	Ea.	C
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	109	Ft.	E

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $481,882.00

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DRAFT

EXISTING DEFICIENCIES:

Water: Water mains do not meet 10 foot separation distance. Water mains are at higher/lower elevation than sewer, and are ___ feet apart for a distance of _____ feet. Age of infrastructure is:

Sewer: Existing sewer collection lift stations are wet well / dry well installations in 2 locations, and septic tanks in 5 separate locations. Dry well access to controls and pumps is a confined space. The increasing frequency confined space entry increases the risk of accidental injury. (Level 3) Special procedures are used to operate the systems as they Septic tankage and pumps are also over capacity, limiting treatment and increasing maintenance costs. Fesibility study recommended upgrades.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Relocate water mains to provide minimum

Sewer: Replace lift stations, sewer laterals, and manholes. Septic tank. Relocate force mains to allow room for new force mains.

Solid Waste: None

O & M: None

CIP Details:

Related Projects: There is an active harbor project in progress which includes dredging, breakwater and docks for the small boat harbor. Approx $8.4M funded by COE/State. Project will provide treated sewage discharge for the new Corp of Engineers Small boat harbor, Community Fire Station and Crane Storage Building, new Teacher Housing and APIA Clinic Housing.

Ongoing Funding: South Old Town sewer project to replace failing clay sewer collection piping and install sewer service to an estimated 53 homes will be completed during 2009-2010.

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	516	Ft.	C
SEWER COLLECTION - Lift station, sewer collection	IHS Regular	2	Ea.	C
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	7	Ft.	C
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	1	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $558,338.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Existing water treatment plant (WTP) building and adjacent existing water storage tank (WST) foundations have experienced differential settlement due to thaw consolidation of underlying permafrost layer. The WTP building has been re-leveled once already and is expected to need to be re-leveled in the future. The WST differential settlement exceeds 12" across the 38' diameter. The galvanized WST was inspected and found to have severe corrosion pitting.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Based on the reports, site visits by the PM and CM, and the cost analyses' it is recommended the WST in Savoonga, Alaska be replaced and the gravel pad leveled and compacted to existing grade. An alternative water source will be required during demolition and construction of the new WST. The community currently has the ability to bypass the WST and provide water to the system during routine maintenance and emergencies. This along with a 500 gallon temporary tank would provide an adequate source during construction. The existing water system, other than the WST, is well maintained and operating as designed.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER TREATMENT - Treatment plant, rehabilitation, water treatment	IHS Regular	1	Ea.	E
WATER DISTRIBUTION - Water storage tank, no foundation, water distribution	IHS Regular	300000	Gal.	E
WATER DISTRIBUTION - Foundation - thermosyphen gravel pad, water distribution	IHS Regular	1500	Sf.	E

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $843,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Well house serving the entire community is more than 20 years old and beyond economical repair. The building has frost jacked out of plumb, the door is not operational, and the electric service creates a safety hazard in the current condition.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Replace well house, install new electric controls, upgrade electric service and make minor changes to the well piping

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - Foundation - conventional, local gravel, water other	IHS Regular	1	Sf.	D
Water, Other - Other water	IHS Regular	1	Ls.	D
Water, Other - Professional Services (engineering)	IHS Regular	1	Ls.	D
Water, Other - Other water	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $142,969.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Community is served with circulating water and vacuum sewer. The six homes in this project are new construction and not served with water and sewer.

Sewer: Community is served with circulating water and vacuum sewer. The six homes in this project are new construction and not served with water and sewer.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Add water service lines to serve the new un-served homes

Sewer: Add vacuum sewer service lines to serve the new un-served homes

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Utilidors, above ground, sewer collection	IHS Regular	300	Ft.	A
SEWER COLLECTION - Service lines, above ground, sewer collection	IHS Regular	300	Ft.	A
WATER DISTRIBUTION - Utilidors, above ground, water distribution	IHS Regular	300	Ft.	A
WATER DISTRIBUTION - Service lines, above ground, water distribution	IHS Regular	300	Ft.	A
Water, Other - Professional Services (engineering)	IHS Regular	1	Ls.	A
Sewer, Other - Professional Services (engineering)	IHS Regular	1	Ls.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $648,785.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The City of Saxman has a problem with the existing water source not supplying an adequate quantity of water for the existing water system. The situation is currently a problem and only expected to get worse in the future. The current raw water source for Saxman is created by a dam located on Saxman Creek. The source is comprised of a small impoundment created by a concrete dam. This dam captures only about one third of the available water in Saxman's watershed. If captured, the additional flow in an adjacent fork of Saxman Creek will greatly improve the amount of available source water for the community. Periods of low precipitation create water shortages in the community. The adjacent fork in Saxman Creek is located approximately 500 feet from the existing impoundment.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Construct new surface water intake, access road, and buried water main. This proposed project will be the last and final phase of a major water system in Saxman,Alaska. The project plans are 65% completed (see planset on file at ANTHC). Also see the attached memo from the Engineer.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER SOURCE - Surface water impoundment, water source	IHS Regular	1	Ea.	D
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	1250	Ft.	D
Water, Other - Road, water other	IHS Regular	1250	Ft.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,029,500.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: The existing primary sewage treatment system is a single train of 2 tanks. The tanks do not have bypasses for cleaning. The tanks fill with solids and cannot be properly cleaned which allows sludge to build over time. Over 50% of the space allotted for solids has been filled with solids that cannot be removed without taking the whole treatment system down. The tanks are operating over capacity.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: A third, two compartment septic tank should be installed in a parallel position to the existing tanks. The new tank should be 20,000-gallons and be configured as a 5,000 gallons in the first and 15,000 gallons in the second compartment.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER TREATMENT - Septic tank, community, sewer treatment	IHS Regular	1	Ea.	C
Sewer, Other - Professional Services (engineering)	IHS Regular	1	Ls.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,150,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The community does not have residential water meters.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Provide water meters for each of the existing E1 homes.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - Other water	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $150,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: Inflow and infiltration noted in sewer system. Ocean outfall permit expired and needs updating. Inadequate treatment provided by community septic tanks.(Larsen Consulting Group, 1999). Alaska State DEC would like to see a connection to the Mountain Point Sewer System by the City of Saxman. The system is currently unpermitted.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: This project proposes to construct two sewage lift stations and 4,700 feet of 6" HDPE sewage force main. A separate project proposes to televise and locate sources of I&I within the Saxman wastewater collection system prior to recommending any further upgrades to the collection. However, if Saxman connects to the Mountain Point sewer system, an upgrade to the collection system is imperative, otherwise an excessive hydraulic loading can be expected from the leaks within the Saxman system. The excessive leaks will translate to higher sewage bills for the residents of Saxman.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Lift station, sewer collection	IHS Regular	2	Ea.	C
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	4700	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,599,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The existing infiltration gallery has been in service for over 20 years. The accumulation of sediment renders standard back-flushing maintenance of the gallery ineffective. Inadequate winter supply threatens the entire distribution system from freeze-up and catastrophic failure.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: A new surface water impoundment structure will provide a relatively permanent solution to the community's surface water intake requirements. Infiltration galleries in high sediment sources have proven to have finite operating lives. The new structure will reduce the utility's pumping cost through increased elevation head and generate supplemental power with a pelton wheel turbine.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER SOURCE - Surface water impoundment, water source	IHS Regular	1	Ea.	C
WATER SOURCE - Surface water impoundment, water source	Other	1	Ea.	C
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	1200	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,603,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The existing sewage lagoon has exceeded its design capacity. Due to lack of space, the lagoon overflows into nearby bodies of water, creating a health and environmental hazard. Furthermore, the DEC is not supportive of new service connections because the lagoon is already 50% over max capacity.

Sewer:

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: The existing lagoon has exceeded its design capacity. Due to its inadequate size, the lagoon is subjected to overflow into nearby bodies of water, creating a health and environmental hazard. The proposed lagoon will be expanded to accommodate the current lagoon loading and stop uncontrolled discharge to nearby bodies of water.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER TREATMENT - Lagoon, borrow local material, sewer treatment	IHS Regular	1	Ac.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,200,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The existing water distribution system in the community of Scammon Bay is composed of decades old PVC arctic pipe. This pipe is prone to cracking and separation, and thus has left the community with significant leakage and infiltration in the distribution system. These leaks have caused the community to utilize almost their entire supply of water during certain times of the year. In addition, the water distribution is plagued with multiple service line and main line freeze ups each winter.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Replace water distribution system's aging PVC mains and services with HDPE artic pipe. This will be the first of a two phase water distribution system replacement project for the community.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	3950	Ft.	C
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	4500	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,957,500.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: The existing landfill site is not permitted and undersized with respect to the current population.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Design and construct a new Permitted Class III Landfill. Close the existing landfill.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste B (Closure) - Closure, solid waste site	IHS Regular	1	Ac.	D
Solid Waste C (Development) - Development, solid waste site	IHS Regular	1	Ac.	D
Solid Waste C (Development) - Professional Services (engineering)	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,962,390.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The existing 327,000 gallon water storage tank presently provides adequate disinfection contact time, but is anticipated to not provide adequate contact time in the near future based on estimated population growth

Sewer:

Solid Waste:

O & M:

PROPOSED FACILITIES:

Water: Construct a 100,000 gallon bolted steel, insulated, heated water storage tank on a thermopile foundation. The proposed tank would be constructed adjacent to the existing "Island" vacuum station. The proposed tank would provide adequate disinfection contact time for anticipated population growth.

Sewer:

Solid Waste:

O & M:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Foundation - freeze back piles, water distribution	IHS Regular	804	Sf.	E
WATER DISTRIBUTION - Water storage tank, no foundation, water distribution	IHS Regular	100000	Gal.	E

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $578,894.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Boardwalks and stair risers are used for pedestrians to cross the existing above ground water and sewer utilidors and services lines. The boardwalks in the west service area are severely deteriorated in several areas and are a safety hazard, particularly to elderly people.

Sewer: Boardwalks and stair risers are used for pedestrians to cross the existing above ground water and sewer utilidors and services lines. The boardwalks in the west service area are severely deteriorated in several areas and are a safety hazard, particularly to elderly people.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Replace 2500 linear feet of boardwalk and stair risers.

Sewer: Replace 2500 linear feet of boardwalk and stair risers.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - Boardwalk, water other	IHS Regular	2500	Ft.	E
Sewer, Other - Boardwalk, sewer other	IHS Regular	2500	Ft.	E

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,618,650.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: The existing dump is unlined and not fenced. Surface water runoff from the dump flows into a creek that drains into the Selawik River which is the community public raw water source. The access boardwalk to the site is dilapidated and caught fire several years ago near the dump entrance, therefore residents are not able to access the solid waste site and discard their wastes at the periphery of the dump site.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Construct a new Class III sanitary landfill.

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - Development, solid waste site	USDA-RD	1	Ac.	D
Solid Waste C (Development) - Professional Services (engineering)	Other	1	Ls.	D
Solid Waste C (Development) - Development, solid waste site	IHS Regular	1	Ac.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,010,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: The existing dump is unlined and not fenced. Surface water runoff from the dump flows into a creek that drains into the Selawik River which is the community public raw water source. The access boardwalk to the site is dilapidated and caught fire several years ago near the dump entrance, therefore

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Upon completion of the new landfill, the old landfill will be closed (this project). The berms will be pushed in and the area will be limed and backfilled to encourage regrowth in the area.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - Development, solid waste site	IHS Regular	1	Ac.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $712,278.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: The existing water intake system consists of a pump installed on a floating box in the river. The intake system is not reliable, and is prone to break down, clogging, and damage by ice during spring breakup due to its location near the river bank. The existing glycol loop in the raw water transmission line is over 20 years old, and is prone to breakdown and leaks. The existing well pump and transmission line do not provide sufficient pressure head to fill the water storage tank. Clogging of the pump intake led to a freeze up during the winter of 2011/2012 which resulted in a $500,000 thaw recovery effort to ensure the community had water.

Sewer:

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Construct a new river intake system mounted on an existing bridge pier in the middle of the river. The water is highly turbid and the current location is too close to shore. Upgrade the raw water transmission utilidor including the glycol loop.

Sewer:

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER SOURCE - Surface water gallery, water source	IHS Regular	1	Ea.	D
WATER DISTRIBUTION - Mains, above ground, water distribution	IHS Regular	1000	Ft.	D
Water, Other - Professional Services (engineering)	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $750,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: None

Sewer: Due to thaw unstable soil causing uneven settlement and bellies in the sewer line and due to the pipeline only being buried at a depth of 2-3 feet, the sewer main in Bloch Street frequently freezes in winter, causing sewage to back up into houses. The current grade of the sewer line is 0.0020 ft/ft, less than the minimum standard of 0.0040 ft/ft. When sewage backed up into Mike & Mary Ann Driscoll's house two winters ago, the city's clean up costs were $93,000.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Replace the Bloch Street sewer main with a new main with an adequate foundation, grade, and depth of burial.

Solid Waste: None

O & M: None

CIP Details:

Related Projects: None.

Ongoing Funding: If the pieces come together quickly enough, construction of a new WTP will start in 2015.

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	730	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $750,002.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: None

Sewer: Seldovia's sewer system, upstream of the terminal Slough Lift Station, suffers from significant sea water inflow and infiltration. Wastewater pumping in the lift station, at tide elevations greater than 13 feet, is 3-4 times greater than at low tide. The interior of the 50 year old cast iron and ductile iron sewer mains, buried in the slough, shows signs of corrosion through numerous cracks in the interior coating. The exterior of the mains is heavily corroded, where exposed to salt water. The majority of the slough sewer services do not meet code: they lack tidal ice and freeze progection, connect to multiple services, have 45 and 90 degree bends, and do not meet current design standards.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Reconstruct 20 slough sewer services with jointless HDPE piping, and remove and cap 5 cleanouts in the slough. Replacing these will increase the life of the lift station pumps and lower lift station O&M costs.

Solid Waste: None

O & M: None

CIP Details:

Related Projects: None.

Ongoing Funding: If the pieces come together, construction of a new WTP will begin in 2015.

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Service lines, direct bury, sewer collection	IHS Regular	1000	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $562,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: None

Sewer: Seldovia's sewer system, upstream of the terminal Slough Lift Station, suffers from significant sea water inflow and infiltration. Wastewater pumping in the lift station, at tide elevations greater than 13 feet, is 3-4 times greater than at low tide. The interior of the 50 year old cast iron and ductile iron sewer mains, buried in the slough, shows signs of corrosion through numerous cracks in the interior coating. The exterior of the mains is heavily corroded, where exposed to salt water.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Replace the cast iron slough sewer main with HDPE piping.

Solid Waste: None

O & M: None

CIP Details:

Related Projects: None.

Ongoing Funding: None.

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	1443	Ft.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,037,012.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: None

Sewer: Seldovia's sewer system, upstream of the terminal Slough Lift Station, suffers from significant sea water inflow and infiltration. Wastewater pumping in the lift station, at tide elevations greater than 13 feet, is 3-4 times greater than at low tide. The interior of the 50 year old cast iron and ductile iron sewer mains, buried in the slough, shows signs of corrosion through numerous cracks in the interior coating. The exterior of the mains is heavily corroded, where exposed to salt water.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Replace the ductile iron slough sewer main with HDPE pipe.

Solid Waste: None

O & M: None

CIP Details:

Related Projects: None.

Ongoing Funding: None.

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	1471	Ft.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $988,997.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: The Shageluk water supply consists of a 135 foot groundwater well, which was drilled on September 28, 1975. The well is located between the combination washeteria/water treatment plant (WTP) and the city office building. Data available on the well production rates vary between 4 (current) and 30 gpm (initial when drilled). The water is high in iron and manganese (1.5 mg/l each), and the well pump has to be pulled at least once per year for cleaning due to iron precipitation. A submersible pump transfers water from the well to the water treatment plant through a 15-foot long polyethylene (PE) water transmission line housed within a 4-inch arctic pipe utilidor. At the WTP, chlorine is added to provide a chlorine residual of 0.2 to 0.5 ppm to minimize customer taste complaints. Fluoridation was discontinued in 1997. Six Weltrol pressure tanks, including four 20-gallon and two 30-gallon, provide chlorine contact time. No other water storage is available. The WTP distributes water to the clinic through a 1-¼ inch PE circulating service line housed inside a buried 4-inch arctic PE utilidor. A central watering point for self haul of water is provided on the outside of the washeteria/WTP (Warren, 1997). The Innoko River School has a separate 82-foot well, water treatment plant, and storage tanks. The quality of water is reported to be very poor. The school discourages students from drinking the water.

Sewer: Residents of Shageluk use pit privies or honeybuckets for waste disposal. Honeybuckets are emptied into pit privies, the landfill (rarely), or directly on the ground. Wastewater collected from the washeteria, clinic, and school flows through a gravity sewer line into a treatment lagoon, which is located on the north end of the community. The 208 x 128 foot fenced facility consists of a small primary treatment pond which discharges to a larger, secondary percolation pond. The percolation pond does not work well, most likely due to silty soils with low percolation rates. Low flows in the summer when school is out allow the system to "catch-up." Reports by the Yukon Kuskokwim Health Corporation (YKHC) indicate that the sewage lagoon has been observed to flood (or erode) during peak river flows due to its location on the lowlands near the Innoko River. A 6-inch arctic PE gravity sewer main starts at the school and is buried for 600 feet to just past Sawdust Street. After this point, the sewer line is suspended aboveground for 400 feet, with adjustable pipe hangers connected to permanent supports, until it discharges into the lagoon. The hangers are intended to allow the pipe grade to be adjusted as needed to provide adequate flow through the pipe; however, it did not appear that maintenance personnel are adjusting the pipe, resulting in periodic freeze-ups. The sewer service line leading from the clinic to the main line is approximately 312 feet of buried 6-inch arctic PE. The service line from the washeteria/WTP to the main line is approximately 70 feet of buried 6-inch arctic PE. The gravity pipeline is in generally fair condition. Discharged water from the washing machines in the washeteria is collected into a 500-gallon dosing tank inside the WTP. As designed, when the tank nears its capacity, the water is supposed to automatically siphon into the sewer line (Warren, M. 1997). The tank as it currently operates drains before it siphons and is vented to the inside of the building, possibly due to a plugged vent pipe.

Solid Waste: The solid waste disposal site is located approximately 1 mile south of the village. The site is an open dump and does not have restricted access. Residents haul their waste to the site on an as needed basis. Refuse is placed directly on the ground and not deposited into trenches or buried. The facility is not fenced and blowing trash has become a nuisance in the surrounding area. There is also a significant amount of trash on the road to the facility. It has been reported that bears frequent the site during the summer months, and the close proximity of the site to the town is of concern. A trash haul service was provided in the past to residents for $10 per month but the service was discontinued due to residents complaining that the cost was too high.

O & M: None

PROPOSED FACILITIES:

Water: NOTE: This project will be dependent on USDA funding the water component for this community.

Sewer: This project will provides core facilities to support this phase of construction. This portion of the project will provide sewer service to the Core area of town. -15 pts until water source is developed.

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Mains, direct bury, sewer collection	IHS Regular	2290	Ft.	A
SEWER COLLECTION - Service lines, direct bury, sewer collection	IHS Regular	1365	Ft.	A
SEWER TREATMENT - Septic tank/drainfield, individual, sewer treatment	IHS Regular	0	Ea.	A
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	21	Ea.	A
Sewer, Other - Professional Services (engineering)	IHS Regular	1	Ls.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,073,692.00

DISCLAIMER: Data displayed below is for informational purposes only.
DRAFT

EXISTING DEFICIENCIES:

Water: The Shageluk water supply consists of a 135 foot groundwater well, which was drilled on September 28, 1975. The well is located between the combination washeteria/water treatment plant (WTP) and the city office building. Data available on the well production rates vary between 4 (current) and 30 gpm (initial when drilled). The water is high in iron and manganese (1.5 mg/l each), and the well pump has to be pulled at least once per year for cleaning due to iron precipitation. A submersible pump transfers water from the well to the water treatment plant through a 15-foot long polyethylene (PE) water transmission line housed within a 4-inch arctic pipe utilidor. At the WTP, chlorine is added to provide a chlorine residual of 0.2 to 0.5 ppm to minimize customer taste complaints. Fluoridation was discontinued in 1997. Six Weltrol pressure tanks, including four 20-gallon and two 30-gallon, provide chlorine contact time. No other water storage is available. The WTP distributes water to the clinic through a 1-¼ inch PE circulating service line housed inside a buried 4-inch arctic PE utilidor. A central watering point for self haul of water is provided on the outside of the washeteria/WTP (Warren, 1997). No residential homes are connected to the treated water system.

Sewer: Residents of Shageluk use pit privies or honeybuckets for waste disposal. Honeybuckets are emptied into pit privies, the landfill (rarely), or directly on the ground. Wastewater collected from the washeteria, clinic, and school flows through a gravity sewer line into a treatment lagoon, which is located on the north end of the community. The 208 x 128 foot fenced facility consists of a small primary treatment pond which discharges to a larger, secondary percolation pond. The percolation pond does not work well, most likely due to silty soils with low percolation rates. Low flows in the summer when school is out allow the system to "catch-up." Reports by the Yukon Kuskokwim Health Corporation (YKHC) indicate that the sewage lagoon has been observed to flood (or erode) during peak river flows due to its location on the lowlands near the Innoko River. A 6-inch arctic PE gravity sewer main starts at the school and is buried for 600 feet to just past Sawdust Street. After this point, the sewer line is suspended aboveground for 400 feet, with adjustable pipe hangers connected to permanent supports, until it discharges into the lagoon. The hangers are intended to allow the pipe grade to be adjusted as needed to provide adequate flow through the pipe; however, it did not appear that maintenance personnel are adjusting the pipe, resulting in periodic freeze-ups. The sewer service line leading from the clinic to the main line is approximately 312 feet of buried 6-inch arctic PE. The service line from the washeteria/WTP to the main line is approximately 70 feet of buried 6-inch arctic PE. The gravity pipeline is in generally fair condition. Discharged water from the washing machines in the washeteria is collected into a 500-gallon dosing tank inside the WTP. As designed, when the tank nears its capacity, the water is supposed to automatically siphon into the sewer line (Warren, M. 1997). The tank as it currently operates drains before it siphons and is vented to the inside of the building, possibly due to a plugged vent pipe.

Solid Waste: The solid waste disposal site is located approximately 1 mile south of the village. The site is an open dump and does not have restricted access. Residents haul their waste to the site on an as needed basis. Refuse is placed directly on the ground and not deposited into trenches or buried. The facility is not fenced and blowing trash has become a nuisance in the surrounding area. There is also a significant amount of trash on the road to the facility. It has been reported that bears frequent the site during the summer months, and the close proximity of the site to the town is of concern. A trash haul service was provided in the past to residents for $10 per month but the service was discontinued due to residents complaining that the cost was too high.

O & M: The City of Shageluk has 4 full time employees. The city provides for operation and maintenance of the existing facilities.

PROPOSED FACILITIES:

Water: This project will construct water service to homes along Hamilton Street. Water service will be provided by individual wells, pressure tanks, and in-home plumbing. Well depth is anticipated to be around 150 feet. -15 pts as project has exceeded the $4M project cap.

Sewer: This project will construct waste water service to homes along Hamilton Street. Waste water disposal will be provided by gravity sewer, one lift station and discharge to the existing lagoon.

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER SOURCE - Ground water well, water source	VSW/RD	20	Ea.	A
WATER DISTRIBUTION - In-house plumbing, water distribution	VSW/RD	20	Ea.	A
WATER DISTRIBUTION - Service lines, direct bury, water distribution	VSW/RD	750	Ft.	A
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	VSW/RD	20	Ea.	A
SEWER COLLECTION - Mains, direct bury, sewer collection	VSW/RD	1872	Ft.	A
SEWER COLLECTION - Force mains, direct bury, sewer collection	VSW/RD	1427	Ft.	A

SEWER COLLECTION - Service lines, direct bury, sewer collection	VSW/RD	1125	Ft.	A
Sewer, Other - Other sewer	VSW/RD	1	Ls.	A
SEWER COLLECTION - Lift station, sewer collection	VSW/RD	1	Ea.	A
Sewer, Other - Professional Services (engineering)	VSW/RD	1	Ls.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $5,688,894.00

DISCLAIMER: Data displayed below is for informational purposes only.
DRAFT

EXISTING DEFICIENCIES:

Water: There are currently two intakes for the water plant, one used in the summer and one in the winter. The current water intake configuration (both summer and winter) and piping prevents water from being pumped at a slow enough rate to provide regulatory compliance with treated water.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Upgrade the winter intake pump house, install control switch at the winter pump and conductivity meter at WTP. Install an automatic shutoff/alarm if conductivity is too high to prevent saline water from entering system. Install a new summer intake screen.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - Other water	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $220,631.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: The water transmission line from the summer intake on the Tagoomenik river is not insulated or buried. As such, it can't be used in the winter, and is subject to damage from vehicle traffic. It currently has several leaks.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Provide new buried water transmission line.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects: None

Ongoing Funding: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	6500	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,625,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: The existing 790,000 gallon WST interior is severely corroding and requires replacement. The tank is a welded steel tank 25+ years old (Constructed in 1985 or 86). The skin of the tank is progressively being blown away during large winter storms. Where the roof meets the top of the wall, severe corrosion has occured and daylight can be seen from inside the tank.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Construct an approximately 800,000 gallon water storage tank to replace the existing tank. A study is complete and awaiting a community resolution that will detail the necessary upgrades.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Water storage tank, no foundation, water distribution	IHS Regular	800000	Gal.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,600,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Shishmaref is an IDL = 4 community with deficiencies in their existing washeteria. The floor in the shower area is showing wear and in some places the wood subflooring is exposed and needs to be replaced. The building is in need of a new roof, insulation, siding, and subfloor. The washeteria contains the same number of washers and dryers as other communities with much smaller populations and the laundry facilities are in constant use throughout the hours of operation. The washeteria needs to be expanded to meet a growing population and future demand. The old water treatment plant near the City office was constructed in the 1970's and now serves as a circulation plant and water transfer station for Shishmaref. The structure is in need of renovation, including a new roof and floor. This community is un-served and a washeteria is the highest level of service the community can reasonably hope to realize.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Construct expansion and improvements for the city washeteria. Construct improvements to the old water treatment plant near the city office. Also install heat recovery equipment for this system.

Sewer: None

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER TREATMENT - Treatment plant, rehabilitation, water treatment	IHS Regular	1	Ea.	D
Water, Other - Washeteria, water portion, no foundation, water other	IHS Regular	1160	Sf.	D
Sewer, Other - Foundation - conventional, local gravel, sewer other	IHS Regular	1160	Sf.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $3,700,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water:

Sewer: The city plans to treat wastewater generated from the flush and haul system at the two-cell facultative wastewater lagoon serving the water treatment plant and washeteria. The existing configuration of the sewage lagoon cannot effectively treat the additional loading from the flush and haul waste. Further, there is no piping infrastructure to effectively convey the flush and haul waste from the haul vehicle to the lagoons. Honey bucket collection bins do no have bases to set on. They sit on uneven ground and frequently tip allowing raw sewage to spill on the ground.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water:

Sewer: Construct a septage receiving station at the city owned facultative wastewater lagoon site to receive wastewater generated from the flush and haul system. Also construct an additional lagoon cell and install mechanical aeration equipment to treat the wastewater received from the flush and haul system, water treatment plant, and washeteria. Construct honey bucket collection bin platforms.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER TREATMENT - Lagoon, borrow local material, sewer treatment	IHS Regular	1	Ac.	D
SEWER COLLECTION - Honeybucket haul stations, sewer collection	IHS Regular	1	Ea.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,475,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: The village of Shishmaref is a honey bucket haul community. Their honey bucket receiving bins are in disrepair and have served beyond their useful service life. The village currently hauls the honey bucket receiving bins to the honey bucket disposal site using ATVs. This causes significant wear and tear on ATVs and forces the city to purchase new ones on a regular basis. There is also a problem with snow obstruction the ATVs' access during the winter months.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Purcahse new honey bucket receiving bins, trailers, and liners. Also purchase a honey bucket haul tractor that will be more durable than ATVs and not be restricted by the snow during the winter.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Haul vehicle, sewer collection	IHS Regular	1	Ea.	E
SEWER COLLECTION - Honeybucket haul stations, sewer collection	IHS Regular	20	Ea.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $280,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: Shishmaref is a honey bucket community and only a limited number of home have flush and haul service.

Sewer: Shishmaref is a honey bucket community and only a limited number of home have flush and haul service.

Solid Waste: None

O & M:

PROPOSED FACILITIES:

Water: Construct improvements to 10 homes to have flush and haul service. This project includes the purchase of a water haul truck and other improvements in order to serve the new users.

Sewer: Construct improvements to 10 homes to have flush and haul service. This project includes the purchase of a water haul truck and other improvements in order to serve the new users.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	10	Ea.	A
WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	10	Ea.	A
WATER DISTRIBUTION - Haul vehicle, water distribution	IHS Regular	1	Ea.	C
SEWER COLLECTION - Haul vehicle, sewer collection	IHS Regular	1	Ea.	C
Sewer, Other - Foundation - concrete foundation	IHS Regular	3800	Sf.	C
Sewer, Other - General estimate, sewer other	IHS Regular	1	Ls.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,809,350.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: - The existing solid waste site is an unpermitted open and unmaintained dump located next to the Honey Bucket disposal site. - The exiting solid waste site lacks a SW management plan

O & M:

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: - Complete a site analysis for a new site - Construct a new solid waste landfill - Develeop a solid waste management plan - Close old solid waste site

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste A (Plan) - Management Plan, Solid Waste	IHS Regular	1	Ls.	D
Solid Waste C (Development) - Study, solid waste	IHS Regular	1	Ls.	D
Solid Waste C (Development) - Road, solid waste	IHS Regular	800	Ft.	D
Solid Waste C (Development) - Equipment, solid waste	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,303,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: Unpermitted open honeybucket/solid waste dump that has reached the end of its useful design life.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Design and construct a new 3 acre landfill. The landfill access road has been designed and is partially funded for construction. (The Tribe will find the remaining funding to complete the road.) Develop a Solid Waste Management Plan. Obtain an operating permit for the landfill. Close out old 2.5 acre Landfill.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste A (Plan) - Management Plan, Solid Waste	IHS Regular	1	Ls.	D
Solid Waste C (Development) - Development, solid waste site	IHS Regular	3	Ac.	D
Solid Waste B (Closure) - Closure, solid waste site	IHS Regular	1	Ac.	D
Solid Waste C (Development) - Professional Services (engineering)	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,889,414.00

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DRAFT

EXISTING DEFICIENCIES:

Water: Residents currently get water from local springs, compromised wells or the community building.

Sewer: Residences have crib systems or use honey buckets and dispose of on open tundra.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Construct approximately 15 wells and associated indoor plumbing.

Sewer: Construct approximately 20 septic systems and associated indoor plumbing.

Solid Waste: None

O & M: None

CIP Details:

Related Projects: none

Ongoing Funding: none

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER TREATMENT - Septic tank/drainfield, individual, sewer treatment	IHS Regular	20	Ea.	A
WATER SOURCE - Ground water well, water source	IHS Regular	15	Ea.	A
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	20	Ea.	A
WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	20	Ea.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,786,500.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: Existing fenced landfill unpermitted.

O & M:

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Develop and construct solid waste site, close existing dump.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - Development, solid waste site	IHS Regular	1	Ac.	E
Solid Waste B (Closure) - Closure, solid waste site	IHS Regular	1	Ac.	E
Solid Waste A (Plan) - Management Plan, Solid Waste	IHS Regular	1	Ls.	E

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $400,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: The community of South Nakneks existing sewer outfall has been broken off at the low tide zone. Wastewater does not recieve proper treatment and does not discharge into the correct approved dispersion point in the current. Sewage washes back onto the beach at low tide. The errosion protection that was placed over the outfall on the bluff is starting to collapse and presents a danger to people on the beach.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Design and build a new lift station, sewer force main, and sewer lagoon to recieve and treat wastewater from the community of South Naknek. Remove the erosion protection structure that was built over the outfall pipe on the bluff.

Solid Waste: None

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Lift station, sewer collection	IHS Regular	1	Ea.	C
SEWER COLLECTION - Force mains, direct bury, sewer collection	IHS Regular	5400	Ft.	C
SEWER TREATMENT - Lagoon, borrow local material, sewer treatment	IHS Regular	3	Ac.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $4,170,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: Permitted site available, borough operated, marginal operation.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Improve operation, review Solid Waste Management Plan.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - Other solid waste	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $600,000.00

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Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: Stebbins is only served by washeteria and central watering point. The existing raw water intake and transmission line is not adequate to provide a year-round water supply able to sustain a piped system. The existing water transmission line has cracks in the piping and severe gaps in the insulation jacket. Seasonal raw water is drawn by a portable pump that is not able to operate under winter conditions.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Construct a year round water intake facility able to draw water in the winter months without freezing. Also construct a new raw water transmission line able to convey water to the proposed water treatment plant without freezing during the winter months.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Water, Other - Other water	IHS Regular	1	Ls.	C
Water, Other - Road, water other	IHS Regular	4000	Ft.	A
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	22000	Ft.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $10,216,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water:

Sewer: Honeybuckets (five gallon buckets) are used in the home in lieu of a flushing toilet. When the honeybucket is full, it is emptied in a collection bin located at different points throughout the community. The City uses an ATV to transport the honeybucket collection bins to the honeybucket dump. A honey bucket dump site receives honey bucket waste from the community. It is located about a mile north of Stebbins, and is approximately 75 ft by 50 ft and about six feet deep. The dump is located just north of a previous honeybucket dump site that reached its capacity and was subsequently covered with gravel. The honeybucket dump is unlined and waste from the honeybucket dump leaches out of the hillside on the down slope side, into a swampy area. A strong odor in the swampy area is indicative of the leaking waste. This dump site is not large enough to serve the community with a piped water and sewer system.

Solid Waste:

O & M:

PROPOSED FACILITIES:

Water:

Sewer: Construct a sewage lift station to receive wastewater from the proposed low pressure sewer collection system. Construct a 3,000 foot long buried force main to convey sewage from the lift station to a proposed 7.7 acre sewage lagoon. Construct a 8 acre sewage lagoon with a primary and secondary cell with sufficient volume to discharge wastewater annually.

Solid Waste:

O & M:

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER TREATMENT - Lagoon, borrow local material, sewer treatment	IHS Regular	8	Ac.	C
SEWER COLLECTION - Force mains, direct bury, sewer collection	IHS Regular	3000	Ft.	C
SEWER COLLECTION - Lift station, sewer collection	IHS Regular	1	Ea.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $7,732,000.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: The community does not have a piped water distribution system bringing potable water to resident's homes. The only buildings served with piped running water are the washeteria, school, and health clinic. Residents draw potable water from a community watering point located on the exterior of the existing washeteria building. Self-hauled water is prone to contamination, introduced by open, improperly cleaned, and un-sanitized containers, or through hand or body contact with the treated hauled water. These homes are not plumbed to provide piped water service.

Sewer: The community does not have a piped sewer collection system. Honeybuckets (five gallon buckets) are used in the home in lieu of a flushing toilet. When the honeybucket is full, it is emptied in a collection bin located at different points throughout the community. The City uses an ATV to transport the honeybucket collection bins to the honeybucket dump. These homes are not plumbed to provide piped sewer service.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Construct 8,600 feet of water mainline, 6,370 feet of water service line, and in-home water plumbing for approximately 58 homes.

Sewer: Construct 3,200 feet of low pressure sewer collection line, 6,370 feet of sewer service line, residential lift station, and in-house plumbing for approximately 58 homes.

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	8600	Ft.	A
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	6370	Ft.	A
WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	49	Ea.	A

SEWER COLLECTION - Force mains, direct bury, sewer collection	IHS Regular	3200	Ft.	A
SEWER COLLECTION - Service lines, direct bury, sewer collection	IHS Regular	6370	Ft.	A
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	49	Ea.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $9,708,488.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: The community does not have a piped water distribution system bringing potable water to resident's homes. The only buildings served with piped running water are the washeteria, school, and health clinic. Residents draw potable water from a community watering point located on the exterior of the existing washeteria building. Self-hauled water is prone to contamination, introduced by open, improperly cleaned, and un-sanitized containers, or through hand or body contact with the treated hauled water. These homes are not plumbed to provide piped water service.

Sewer: The community does not have a piped sewer collection system. Honeybuckets (five gallon buckets) are used in the home in lieu of a flushing toilet. When the honeybucket is full, it is emptied in a collection bin located at different points throughout the community. The City uses an ATV to transport the honeybucket collection bins to the honeybucket dump. These homes are not plumbed to provide piped sewer service.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Construct 6,000 feet of water mainline, 8,450 feet of water service line, and in-home water plumbing for approximately 67 homes.

Sewer: Construct 7,500 feet of low pressure sewer collection line, 8,450 feet of sewer service line, residential lift station, and in-house plumbing for approximately 67 homes.

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	6000	Ft.	A
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	8450	Ft.	A
WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	65	Ea.	A

SEWER COLLECTION - Force mains, direct bury, sewer collection	IHS Regular	7500	Ft.	A
SEWER COLLECTION - Service lines, direct bury, sewer collection	IHS Regular	8450	Ft.	A
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	65	Ea.	A
WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	20	Ea.	A
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	1	Ea.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $12,599,460.00

DISCLAIMER: Data displayed below is for informational purposes only.
Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: The community does not have a piped water distribution system bringing potable water to resident's homes. The only buildings served with piped running water are the washeteria, school, and health clinic. Residents draw potable water from a community watering point located on the exterior of the existing washeteria building. Self-hauled water is prone to contamination, introduced by open, improperly cleaned, and un-sanitized containers, or through hand or body contact with the treated hauled water. These homes are not plumbed to provide piped water service.

Sewer: The community does not have a piped sewer collection system. Honeybuckets (five gallon buckets) are used in the home in lieu of a flushing toilet. When the honeybucket is full, it is emptied in a collection bin located at different points throughout the community. The City uses an ATV to transport the honeybucket collection bins to the honeybucket dump. These homes are not plumbed to provide piped sewer service.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Construct 6,500 feet of water mainline, 910 feet of water service line, and in-home water plumbing for approximately 8 homes.

Sewer: Construct 1,500 feet of low pressure sewer collection line, 910 feet of sewer service line, residential lift station, and in-house plumbing for approximately 8 homes.

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	6500	Ft.	A
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	910	Ft.	A
WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	7	Ea.	A

SEWER COLLECTION - Force mains, direct bury, sewer collection	IHS Regular	1500	Ft.	A
SEWER COLLECTION - Service lines, direct bury, sewer collection	IHS Regular	910	Ft.	A
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	7	Ea.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $3,442,688.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: No permitted solid waste site, site built in early 1990's, (SWMP letter 1991) open.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Develop site selection report, select site, SW management plan, design and build a Class III Solid Waste Site, close old site if necessary.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste B (Closure) - Closure, solid waste site	IHS Regular	1	Ac.	D
Solid Waste C (Development) - Study, solid waste	IHS Regular	1	Ls.	D
Solid Waste C (Development) - Development, solid waste site	IHS Regular	3	Ac.	D
Solid Waste A (Plan) - Management Plan, Solid Waste	IHS Regular	1	Ls.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,123,053.00

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DRAFT

EXISTING DEFICIENCIES:

Water: ADEC decided to revisit the raw water source determination following the Spring 2009 flood. A evaluation of the source water by ADEC may result in a change to the source determination from groundwater to groundwater under the direct influence of surface water (GWUDISW). The existing facility is beyond its useful life and is in a state of progressive structural failure (floor system failing beneath tank).

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Design and construct water treatment plant to comply with the SWTR. This plant will share facilities with a washeteria.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects: None

Ongoing Funding: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER TREATMENT - Treatment plant, new, no foundation, water treatment	IHS Regular	1500	Sf.	D
WATER TREATMENT - Foundation - conventional, local gravel, water treatment	IHS Regular	1500	Sf.	D
Water, Other - Professional Services (engineering)	IHS Regular	1	Ls.	D
Water, Other - Planning costs	VSW/RD	1		D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $2,409,500.00

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DRAFT

EXISTING DEFICIENCIES:

Water: Existing water storage tank serves school, clinic and washeteria. Existing tank is incapable of meeting the community water demand in case the piped system is considered.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: New 100,000 gallons insulated bolted water storage tank to accommodate the piped water system. Note: the water demand and storage capacity is derived from 2008 Preliminary engineering report. -15 no pipes are planned at this time.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects: None

Ongoing Funding: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Water storage tank, no foundation, water distribution	IHS Regular	100000	Gal.	D
SEWER COLLECTION - Foundation - conventional, local gravel, sewer collection	IHS Regular	980	Sf.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,078,400.00

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DRAFT

EXISTING DEFICIENCIES:

Water: None

Sewer: Currently the community uses honey bucket waste and dispose in pit privies.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Adequately sized waste water lagoon to meet the hydraulic loading of the community and accomodate piped sewer system.

Solid Waste: None

O & M: None

CIP Details:

Related Projects: None

Ongoing Funding: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER TREATMENT - Lagoon, borrow local material, sewer treatment	IHS Regular	2	Ac.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $1,959,286.00

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Updates Completed By Engineer

EXISTING DEFICIENCIES:

Water: The existing water system is central watering point and washeteria only. The residents haul water from watering point according to their needs. The comminity lacks piped water distribution system, house service lines and in house plumbing.

Sewer: None

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: Design and construction of single main pit orifice circulating water distriibution system with service connections and inhouse plumbing. The project will service 39 existing homes with running water.

Sewer: None

Solid Waste: None

O & M: None

CIP Details:

Related Projects: None

Ongoing Funding: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
WATER DISTRIBUTION - Mains, direct bury, water distribution	IHS Regular	27000	Ft.	A
WATER DISTRIBUTION - Service lines, direct bury, water distribution	IHS Regular	5500	Ft.	A
WATER DISTRIBUTION - In-house plumbing, water distribution	IHS Regular	29	Ea.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $7,167,850.00

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DRAFT

EXISTING DEFICIENCIES:

Water: None

Sewer: Currently the community uses honey bucket and dispose of in pit privies. The community lacks piped waste water collection, treatment and disposal facility, house service connections and adequately sized waste water lagoon to meet the hydraulic loading of the community.

Solid Waste: None

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: Design and construction of low pressure waste water collection system with service connections and in house plumbing.

Solid Waste: None

O & M: None

CIP Details:

Related Projects: None

Ongoing Funding: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER COLLECTION - Force mains, direct bury, sewer collection	IHS Regular	13900	Ft.	A
SEWER COLLECTION - Service lines, direct bury, sewer collection	IHS Regular	5500	Ft.	A
SEWER COLLECTION - In-house plumbing, gravity, sewer collection	IHS Regular	29	Ea.	A

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $4,937,615.00

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DRAFT

EXISTING DEFICIENCIES:

Water: None.

Sewer: The community and residents installed onsite septic systems. The community lacks a vacuum trailer and sludge lagoon.

Solid Waste: None.

O & M: None

PROPOSED FACILITIES:

Water: None.

Sewer: Provide a vacuum trailer/truck and construct a sludge lagoon.

Solid Waste: None

O & M: None

CIP Details:

Related Projects:

Ongoing Funding:

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
SEWER TREATMENT - Septic tank pumper, sewer treatment	IHS Regular	1	Ea.	C
SEWER TREATMENT - Lagoon, borrow local material, sewer treatment	IHS Regular	1	Ac.	C

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $575,000.00

DISCLAIMER: Data displayed below is for informational purposes only.

EXISTING DEFICIENCIES:

Water: None

Sewer: None

Solid Waste: Community needs an approved solid waste site.

O & M: None

PROPOSED FACILITIES:

Water: None

Sewer: None

Solid Waste: Develop SW site selection report, select site, SW Management Plan, construct an approved solid waste disposal site, close old site if necessary.

O & M: None

COST ESTIMATE

Scope Item	Funding Source	Quantity	Units	Health Impact Tier
Solid Waste C (Development) - Development, solid waste site	IHS Regular	2	Ac.	D
Solid Waste A (Plan) - Management Plan, Solid Waste	IHS Regular	1	Ls.	D
Solid Waste B (Closure) - Closure, solid waste site	IHS Regular	1	Ac.	D

Health Impact Tier:
A - First Service
B - Regulatory Compliance
C - Essential Upgrades
D - Beneficial Upgrades
E - Desired Upgrades

Total Costs: $810,000.00